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ABSTRACT

Lesson planning can be divided into three types--content, process, and context. Each type helps to organize classroom activities, and together they establish the ambiance of the learners' journey. Content plans focus on information students should know. Instructional strategies designed to introduce or elaborate the content presentation should be included. Process plans help students learn how to perform cognitive skills or procedures. Process skills include procedural knowledge that supports independent learning. Context plans set the larger framework in which content and process lessons occur. Context plans can include decisions about grouping, discipline, and grading. The instructor can develop process lesson plans in six steps: (1) decide what process changes would improve student performance; (2) help students understand the purpose of the lesson; (3) help students connect prior knowledge to new process information; (4) break instruction into incremental steps to help students develop their performance theory; (5) provide meaningful practice in the process; and (6) extend the lesson by making applications to other areas. The process lesson format contributes to the goal of creating more meaningful learning contexts by facilitating instructional planning. Well-structured content and process plans will help insure that all students make progress in acquiring the knowledge and skills that support cultural literacy. (Twenty-two references are attached.) (MG)

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Planning Process Lessons:
A Guide to Independent Learning

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Abstract

The more complex a task, the more important the role of planning in the successful orchestration its components. Three types of instructional planning are considered in this paper -- process, content, and context. Because of the central role of process instruction in the development of independent learners, primary emphasis is given to this form of planning. A sequence of steps is described for organizing process planning, and illustrations of these steps are provided for two process lessons. Finally, the interaction of process, content, and context plans are considered in relationship to effective teaching and learning.

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Planning Process Lessons: A Guide to Independent Learning

On any journey, the better the advance planning, the greater the probability that the goal will be reached and the trip enjoyed. Guiding learning in the elementary classroom is a complex task requiring thoughtful instructional planning. The teacher, like a wilderness guide, leads the party through unexplored territory. As the guide, the teacher's job is to help everyone make progress, keeping the journey as interesting and pleasant as possible. The more unfamiliar the cognitive terrain, the more gradual the progress. On the journey, some children move quickly along the trail, others lag behind. The guide points out new sights along the way, but more importantly, helps party members develop the skills needed to make future trips on their own. A successful guide not only gets everyone to their destination safely but leaves them able and eager to set out on new adventures.

Despite the importance of advance planning, lesson plans have acquired a negative reputation. One reason may be that some administrators mandate lesson plans as a form of accountability. As a result, lesson plans are sometimes reduced to a listing of the pages to be read and exercises to be completed. Although these plans may help a substitute keep children busy, they can not effectively guide instruction. Such plans may mark the trail to be covered, but they reflect little of how the guide can help the party along the way.

We prefer a lesson plan that both marks the trail and describes the instructional support needed to insure that everyone has a reasonable chance of completing the journey. Lesson planning can be divided into three types--content, process, and context. Each type helps to organize classroom activities, and together they establish the ambiance of the learners' journey.

Content plans focus on information we want students to know. Developing content knowledge is important because it serves as the building blocks students use to construct meaning. Content consists of declarative knowledge. For example, knowing: the capital of South Dakota is Pierre; the atom is made up of a number of subatomic particles; the Bill of Rights is the first ten amendments to the Constitution of the United States of America. Content plans should include instructional strategies designed to introduce or elaborate the content presentation. Process plans help students learn how to perform cognitive skills or procedures. Process skills are crucial since they enable students to construct meaning from their available content knowledge. Process skills include procedural knowledge that supports independent learning; for example, knowing: how to organize a learning task efficiently; how to survey, scan, or study a reading assignment; how to organize information for long or short term retention. Combining process knowledge with conditional knowledge that specifies when and under what circumstances the process is most effective allows students to make strategic decisions to maximize learning. Process knowledge enables students to initiate and direct their own cognitive journeys.

Context plans set the larger framework in which content and process lessons occur. Context consists of a large number of factors that influence the setting and conditions in which instruction occurs. Context plans can include decisions about grouping, discipline, and grading. The classroom context is also partially determined by the nature of content and process plans. Contextual factors are important because they interact with content and process plans to enhance or

limit their effectiveness. We will further discuss the interaction of these three types of planning after developing a detailed format for process planning.

How To Develop A Process Lesson Plan

Despite the importance of process instruction, it is often neglected. Durkin (1979) reported a remarkable absence of instruction designed to improve reading comprehension. Content and process planning pose a number of problems for teachers, but for students the lack of process instruction may create greater difficulties than the neglect of specific content instruction. Without effective process instruction, students may adopt and maintain highly inefficient strategies (Brown, Bransford, Ferrara and Campione, 1983). For instance, students who read and reread their textbook to study for exams may have difficulty modifying this established approach when more efficient procedures are suggested. Maintaining inefficient process strategies will have a long term negative effect on learning content information.

The following sections describe six steps that structure the development of process lesson plans. This is a format that we have found useful in organizing our own planning and instruction; it is also representative of a growing consensus among educators concerned with direct or explicit instruction (Baumann & Schmitt, 1986; Duffy & Roehler, 1982; Pearson, 1984; Rosenshine & Stevens, 1984). Two examples of process plans are then given to demonstrate the application of the steps. The examples deal with reading instruction since this is our area of expertise. We see no reason, however, why the general lesson framework would not be equally effective for process lessons

in science, math, social studies, or other subject areas.

Process lesson plans should address major instructional goals. These plans are designed for long journeys of which tomorrow's hike is but a small part. Of course, the route may need to be altered and modifications made along the way. Considering these six steps will help you to confidently plan, direct, and monitor process instruction.

Step 1. Decide what conceptual or process changes would improve student performance.

Determining instructional needs is central to diagnostic teaching. Make a tentative decision about what process knowledge or strategies would improve your students' performance, given their current capabilities. The initial steps of a process plan might be appropriate for any group above some minimal level of skill development. However, the type, amount, and pace of subsequent instruction should be adjusted based on informal assessment of student response to instruction.

Step 2. Help students understand the purpose of the lesson.

Children learn best when they have a purpose for learning. Phil, a ten year old, resisted all attempts to teach him to tell time. His resistance persisted until, one day, he arrived late for a Saturday matinee and missed the cartoon. The next day he learned to tell time. Now he had a purpose for learning.

Often, students who are unfamiliar with a process can not fully understand direct explanations of purpose . Analogies or practical demonstrations are usually more powerful. As a class assignment in

our graduate reading program, we asked teachers to develop lesson plans for a topic they found difficult to teach. A librarian dreaded teaching guide words. Despite her best explanations about how guide words saved time and made research more efficient, students were bored and disruptive. We recommended a demonstration to illustrate the purpose.

The librarian filled five boxes with many small objects, designated two relay teams, and gave each a list of objects. The first member of each team raced to the front of the room, searched through five boxes to find the first item on their list, returned to the starting line, and handed the list to the next team member, who repeated the procedure. This continued until both teams found all of their items. Anticipating a request for a rematch, the librarian added a twist to the race. She labeled each box with a set of letters that divided the alphabet into five parts and redistributed the items into the boxes alphabetically. The relay started again. This time each team strived to improve their time. The teams did improve, and they knew why.

The rest of the lesson was easy. The students quickly drew clarifying analogies between the game and information the teacher presented. The concrete demonstration had clearly established the purpose of guide words.

Step 3. Help students connect prior knowledge to new process information.

Students' prior knowledge takes two forms: 1) related skills and strategies that can be extended to a new task, and 2) partially successful skills and strategies that may need to be altered or abandoned before further progress can be made.

The guide word demonstration illustrates how related skills and strategies can be extended to new tasks. In this case, students' search- strategies and knowledge of the alphabet were extended to a new reference skill, using guide words. Making students aware of useful related knowledge increases interest and facilitates comprehension, as the librarian's innovative instruction demonstrated.

Making children aware of possible conflicts between a partially successful strategy and a new or more complete strategy is also important (Brown, et. al., 1983; Schwartz, 1986). Naturally, students are reluctant to abandon strategies that have been occasionally successful. Demonstrating the limits of their current approach or the superiority of an alternative is necessary to initiate change. For example, immature readers often confuse the letters b, d, p, and q. The cause of these reversal errors is rooted in prior visual experience. Past experience has taught children to ignore changes in spatial orientation when identifying objects and people. A child's toy, for example, does not change identity when its physical orientation in space changes. Most letters can also be identified successfully by features that are independent of relative position in space and frame of reference. Modifying the child's letter identification procedure will require resolution of the conflict between the current, but only partially successful, letter identification strategy and a new, more complete strategy.

Brown et. al. (1983) describes a variety of partially successful strategies that can impede further process development. These include examples related to study skills, composition, and scientific reasoning.

Step 4. Break instruction into incremental steps to help students develop their performance theory.

Many process skills are difficult to learn, partly because they are not directly observable. For example, hearing the correct answers to inference questions or reading the final draft of an essay provides little insight into the thought and decision processes that generated them. Examining such end products helps some students refine their process skills, but not others. For students who need more direct help, teachers can model the steps required to perform the task and sequence the application of process strategies from simple to complex contexts.

Breaking tasks into incremental steps allows students to see how the process operates and develop their own theory to guide performance. In modeling inference, for example, the teacher may initially perform and describe all the steps in the process. Gradually, students are asked to perform some of the steps previously modeled by the teacher. This gradual transfer of responsibility allows students to develop a working theory of how to perform the task on their own. Observing, participating, and discussing helps students modify their understanding of the task and develop criteria to monitor their own performance (Palinscar and Brown, 1984; Pearson, 1985).

Step 5. Provide meaningful practice in the new process.

Meaningful practice reinforces the purpose of the process. Conversely, practice is neither meaningful nor useful when the purpose of the process is distorted or disguised. For example, workbook exercises on guide words often ask students to decide on which set of pages a particular word will be found. While this exercise may in-

crease knowledge of alphabetic sequence, it does not adequately convey the major purpose of guide words, which is to find references rapidly. Introducing a time element and a practical application into the exercise would provide more meaningful practice and makes a tighter connection between practice and purpose; for example, conducting a scavenger hunt for information in and encyclopedia.

Even when the purpose of practice is clear to the teacher, it may be obscure to students struggling to master the new skill. Not only must purpose be built into the design of instructional materials, but teachers should highlight this relationship. Explain or demonstrate the purpose of practice exercises, or elicit an understanding of purpose from students through probing questions. When both teacher and students expect meaningful practice, learning is enhanced.

Step 6. Extend the lesson by making applications to other areas.

Process skills support content learning. Consequently, process instruction should extend, or transfer skills to related content areas. Applying skills in content courses and to non-school problems insures that the process will be used and maintained. Such transfer training also provides an opportunity to develop the conditional knowledge needed to use skills independently and efficiently. A student may have good process skills to perform a quick survey of a chapter or article; however, he may fail to initiate this process in situations where it would be appropriate. To use process skills independently and efficiently, students need to make decisions about when a given strategy will help achieve their purpose. Teachers can not assume that transfer will occur; they must plan instruction that makes it happen.

TWO SAMPLE PROCESS LESSONS

Below are two reading lessons illustrating process instruction at each of the six steps. Lesson A focuses on teaching text-based inferential reasoning. Lesson B focuses on teaching organization strategies to aid comprehension and memory of expository text. Our intention is to illustrate the general planning involved in process lessons; therefore, we alternate from lesson A to B at each step of the lesson format to give two examples of the type of planning suggested. More, less, or different instruction may be needed at each step depending on the level and response of students. With this disclaimer, we present these illustrations of process lessons. We invite you to prepare additional or alternative activities, or develop parallel plans for other curriculum areas.

Step 1. Decide what conceptual or process changes would improve student performance.

Lesson A:

Teaching Inferential Reasoning.

Good readers construct meaning from text-based information, reasoning, and their prior knowledge. Less skilled readers, on the other hand, have a more limited concept of the reading process. They approach reading as a task of selecting information, usually literal, from texts rather than one of constructing meaning. This leads to difficulty in re-

Lesson B:

Teaching Organization Strategies.

Some students have difficulty identifying and remembering important information from expository texts. One reason for this problem is that they fail to attend to the patterns of organization that authors use to structure their texts. Unless students use the author's structure or impose their own, they have no pattern to aid in recalling or selecting important informa-

sponding to inference questions since answers to inference questions can not be directly identified in the text. As a result, students may attempt to answer questions by: 1) selecting information from a section of the text that shares words or phrases used in the questions, 2) responding based solely on their background knowledge without considering clues from the text, 3) concluding that the answer is not given since it is not stated literally in the text, or 4) failing to respond to the question (Raphael, 1986a). Procedures 1 and 2 may yield partial success, but they can interfere with the development of more advanced strategies for constructing meaning.

Readers who display these behaviors respond well to instruction that models how meaning is constructed. Modeling inferential reasoning helps readers modify their theory of the reading process and improves reading achievement (Cramer, 1976; Gordon, 1985, Spencer, 1985).

tion for further study (Meyer, Brandt, & Bluth, 1980). Knowledge of text structure can also compensate for comprehension difficulties caused by poorly written text (Ohlhausen & Roller, 1988)

Step 2. Help students understand the purpose of the lesson.

Lesson A: Stride into the classroom, slap a book on the desk, and glare fiercely at the class. Direct angry comments at the class or one or two students in the group (cohorts you have previously enlisted). Pass out a worksheet to the class with stern in-

Lesson B: Obtain ten playing cards, from ace to ten in alternating suits. Arrange the ten cards in random order on a table at the front of the room. Have groups of students come to the front and study the cards until they can write down the number and suit of

On the worksheet, ask questions about your previous behavior: What did I throw on the desk? Which students did I speak to directly? How do I feel today? Would this be a good time to ask me for a favor? When you answered the last two questions, did you have to think differently than when you answered the first two questions? Why? Discuss the inferences students make in this everyday situation. Point out that their inferences were derived from events, prior knowledge, and reasoning.

each card without looking at the display. Tell students that they do not need to remember the cards in the sequence presented, just the number and suit of each card.

Poll the class to see how many students succeeded in remembering all ten cards correctly. Then rearrange the cards into an organized pattern of four columns with ascending order across rows and a single suit in each column, as follows:

H C D S
A 2 3 4
5 6 7 8
9 10

Have the students view the display again until they are sure they can remember all ten cards. Discuss how finding a pattern aids memory: "How did you try to remember the cards the first time? Did you find any pattern to the cards? Was it easier to remember them the second time? What pattern of organization did you discover? How did the pattern of the cards affect the way you studied them?"

Step 3. Help students connect prior knowledge to new process information.

Lesson A: Students can answer factual and inferential questions as the demonstration in Step 2 illustrates. Extend this demonstration by linking it to the process

Lesson B: Write a list of historical characters on the board. Ask students to suggest different ways of organizing the list-- time order, good versus bad, alpha-

students use to make inferences about familiar topics like sports, music, or social interactions: "Who is the best player or team? Why do you prefer one musical group to another? How do you know when someone likes you?" Point out that different people might give different answers to these questions depending on previous knowledge and experience. Focus on the importance of providing support for answers by citing facts and using reasoning. Help students recognize that they do not need to learn a new way of thinking. They already use inferential reasoning in everyday situations. However, they do need to learn ways of applying their inferential capabilities to reading.

betical order, fictional versus real, country of origin. Discuss organization of other familiar information such as sports leagues, caring for a pet, recipes, classes in school, or the steps to starting a car. Explain that authors use a variety of these familiar patterns to organize information in texts and that noticing the patterns used can aid memory, as the card demonstration illustrated. To reinforce the connection between organization and memory, ask students to recall the list of historical characters presented earlier. Point out the patterns they have used to organize their recall list. Highlight the idea that organizing the information helped them remember it without special effort at memorization.

Step 4. Break instruction into incremental steps to help students develop their performance theory.

Lesson A: 1. **Teacher Modeling.** Draw an inference and point out text-based information and reasoning which supports the inference. For example, using materials jointly read, say: "I think the butler killed Mrs. Pepper. Here is the information and reasoning that supports my conclusion." Then point out the supporting evidence and explain your reasoning.

2. **Student-Teacher Modeling:** State an inference and invite students

Lesson B: In this lesson the incremental steps involve movement from simple to complex texts and applications of the organizational strategies. Within each of these levels additional steps could be designed to gradually transfer responsibility from the teacher to the students.

1. **Simple Patterns:** Describe patterns used to organize expository texts. Using short passages that demonstrate each pattern, point out the clues used to identify

to cite text-based evidence and explain the reasoning that supports or refutes the inference. For example: "I think this story proves that dolphins have a way of 'talking' with one another. What information and reasoning supports my idea or proves me wrong?"

3. **Student Application**: Identify text-based information, and ask students to decide what this information implies. For example, say: "The story tells us that the hat found at the scene of the crime was dusty, tallow stained, and exceedingly large. What does this information suggest about the person to whom the hat belonged?"

4. **Independent Practice and Assessment**: Provide independent practice by posing questions that require students to draw inferences. For example, following an independent reading assignment ask: "Are dolphins fish or mammals? How do you know?" Encourage students to consider multiple answers and to cite the information and reasoning needed to support their answers.

the pattern and draw simple diagrams to illustrate how the passage information is organized.

Select passages which exemplify various types of text organization. First, have students identify the patterns used to organize the text. Then, have students match the passages with partially completed diagrams reflecting the pattern of organization.

2. **Complex Texts**: Have students read several pages of texts that combine a number of patterns or exemplify poor organizational structure. Discuss the combined patterns, difficulties in learning from poorly organized text, and ways of reorganizing the information to simplify learning.

3. **Textbook Strategies**: Demonstrate how to survey a chapter by focusing on the patterns of organization used in text headings and the opening sentences of paragraphs. Discuss how information gleaned from surveying can be used to make predictions and set purposes for reading and learning. Allow students to practice surveying, and discuss the clues they find most helpful in predicting and setting purposes for reading.

Step 5. Provide meaningful practice in the new process.

Lesson A: Give students a set of inference questions with answers that include supporting information and reasoning. Ask them to evaluate the quality of the supporting information and reasoning underlying the answer. When they feel an answer is weak, have them write an alternative answer containing more appropriate supporting evidence and reasoning. Have students write inference questions based on their own writing or selected passages. Group students and have them share their questions, and discuss the supporting evidence from the text and the reasoning required to answer them.

Lesson B: Provide students with key words and phrases from an article or chapter. Have them show how these words and phrases create a pattern of organization. Based on the pattern of organization, have them decide which ideas are most important.

Provide a set of questions based on an article or chapter. Have students identify the questions that best test understanding of the text. Then discuss how good test questions reflect text organization. Point out how knowing this can help in writing effective answers to test questions.

Step 6: Extend the lesson by making applications to other areas.

Lesson A: Discuss the types of inferences and inference questions appropriate for different kinds of texts or subject areas. For example, a mystery often requires inferences about motive, means, and opportunity. On the other hand, inferences in content areas, such as history and science, rely heavily on prior knowledge of basic historical and scientific concepts and vocabulary.

Lesson B: A number of additional lessons can be developed from the basic concept that expository text has organizing structures that help readers identify and remember important information. Extend the use of organizational patterns for constructing structured overviews (Barron and Schwartz, 1986), organizing notetaking from reading or lectures (Vaughan & Estes, 1986, p. 257-258), and planning and revising writing (Taylor & Beach, 1984).

These two process lessons mark the trail for elaborate instructional journeys. The activities in Step 4 could require one or more weeks of instructional time. Additional activities may also be needed depending on students' responses. The practice exercises in Step 5 could be expanded to match each of the activities included in Step 4. This would strengthen students' developing performance theory and provide further diagnostic information to guide instruction. The plan can and should be modified as the trip unfolds.

Learning and Instructional Context

The extent to which students internalize these process lessons will be affected by the broader classroom context. The demonstrations and explanations generated in Steps 2 and 3 help establish the context for instruction, but only within the framework determined by the total set of contextual factors. Factors like grading policies, grouping procedures, and participation rules affect students' involvement in the learning process. These contextual factors interact with process or content plans to enhance or reduce learning. To maximize learning, the classroom context should be structured to allow students to assume ownership of both the process and content of their learning.

Current approaches to teaching writing incorporate both process and context plans (Cramer, 1978; Graves, 1983). These approaches emphasize writing for real audiences to communicate meaningful ideas. Achieving these functions of literacy sets the context for specific instruction on the writing process (Raphael, 1986b). Writing instruction is more likely to be internalized when presented in a

meaningful social context [e.g., the Young Authors Conference format developed by Professor Harry Hahn (Coon & Palmer, 1985)], than a context where obtaining a grade or completing a school task is the sole purpose for writing. Similarly, in science, both content and process instruction are enhanced by contexts that challenge students to function as scientists rather than simply memorize scientific information (Dole & Smith, 1987).

Even well-structured content and process plans are likely to be ineffective if the classroom context does not encourage students to take responsibility for their learning. E.D. Hirsch's book, Cultural Literacy, (1987), has rekindled an old educational debate over the role of process versus content instruction. Hirsch (1987) maintains that literacy within a national community depends on authors and readers sharing a large but teachable body of culturally based knowledge. Hirsch (1987) believes that schools have devoted far too much of their energies to content-free process instruction at the expense of instruction designed to transmit the content core that would support cultural literacy.

We hope it is obvious in this article that we value process learning and hope to increase the effectiveness of process instruction. We do agree with Hirsch (1987) that content knowledge lays the foundation for learning and strongly affects comprehension. But, like most debates that defy resolution, we believe the focus of this debate is misdirected. The critical issue is not whether American schools should realign the balance between process and content instruction, but rather how to create more meaningful learning contexts. The process lesson format we have described contributes to this goal by fa-

cilitating instructional planning. Well-structured content and process plans will help insure that all our students make progress acquiring the knowledge and skills that support cultural literacy. Embedding these plans within social contexts that allows students to assume ownership of both the process and content of their learning will enable them to direct their own cognitive journeys.

REFERENCES

Barron, R.F., & Schwartz, R.M. (1984). Graphic postorganizers: A spatial learning strategy. In C. D. Holley & D. F. Dansereau (Eds.), Spatial learning strategies: Techniques, applications and related issues (pp. 275-289), Orlando: Academic Press.

Brown, A. L., Bransford, J. D., Ferrara, R. A., & Campione, J. C. (1983). Learning, remembering and understanding. In P.H. Mussen, J.H. Flavell, E.M. Markman (Eds.), Handbook of child psychology: Vol. 3, Cognitive development (pp. 77-166). New York, Wiley.

Baumann, J.F., & Schmitt, M.C. (1986). The what, why, how and when of reading comprehension instruction. The Reading Teacher, 39, 7, 640-646.

Coon, G.E., & Palmer, G. (1985). Writing to be read: The young authors conference. Early Years, 15 (5), 49-51.

Cramer, Ronald L. (1978). Children's Writing and Language Growth. Columbus, Ohio: Charles Merrill Pub. Co.

Cramer, Ronald L. (1976). "Modeling Comprehension." Unpublished manuscript, Oakland University, School of Human and Educational Services, Rochester, Michigan.

Dole, J. A. & Smith, E. L. (1987). When prior knowledge is wrong: Reading and learning from science text. Paper presented at the Annual Meeting of the National Reading Conference, St. Petersburg, FL.

Duffy, G. G., & Roehler, L. R. (1982). Direct instruction of comprehension: What does it really mean? Reading Horizons, 23, 35-40.

Durking, Delores (1979). What classroom observations reveal about reading comprehension instruction. Reading Research Quarterly, 14, 375-389.

Gordon, C. J. (1985). Modeling inference awareness across the curriculum. Journal of Reading, 28, 444-447.

Graves, D. H. (1983). Writing: Teachers and Children at Work. Portsmouth, NH: Heinemann Educational Books.

Hirsch, E. D. Jr. (1987) Cultural literacy: What every american needs to know. Boston, Mass: Houghton Mifflin Co.

Palinscar, A. S. & Brown, A. L. (1984) Interactive teaching to promote independent learning from text. The Reading Teacher, 38, April, 771-777.

Meyer, B. J. F., Brandt, D. M., & Bluth, G. J. (1980). Use of top-level structure in text: Key for reading comprehension of ninth-grade students. Reading Research Quarterly, 16, 72-103.

Pearson, P.D. (1984). Direct explicit teaching of reading comprehension. In G.G. Duffy, L.R. Roehler, & J. Mason (Eds.), Comprehension instruction: Perspectives and suggestions (pp. 222-233). New York: Longman.

Pearson, P.D. (1985). Changing the face of reading comprehension instruction. The Reading Teacher, 38, April, 724-738.

Raphael, T. E. (1986a) Teaching question answer relationships, revisited. The Reading Teacher, 36 (8), 740-745.

Raphael, T. E. (1986b) Contexts of school-based literacy: A look toward the future. In T. E. Raphael (ED.), The context of school-based literacy (pp. 295-310). New York: Random House.

Rosenshine, B., & Stevens, R. (1984). Classroom instruction in reading. In P.D. Pearson (ED.), Handbook of reading research (pp. 745-798). New York: Longman.

Spencer, B. H. (1985). The effects of a teaching procedure on the inferential comprehension of sixth grade poor readers. Unpublished doctoral dissertation, Oakland University, Rochester Michigan.

Taylor, B. M. & Beach, R. W. (1984). The effects of text structure on middle-school students' comprehension and production of expository text. Reading Research Quarterly, 19, 134-146.

Vaughan, J. L. & Estes, T. H. (1986). Reading and reasoning beyond the primary grades. Boston: Allyn and Bacon.